

REMARKS

Claims 21-27 and 29-49 are pending in this application. By this Amendment, claim 21 is amended to recite features supported in the specification on page 13, lines 7-16. No new matter is added by any of these amendments.

Applicants appreciate the courtesies extended to Applicants' representative by Examiners Jorgensen and Saras during the January 15, 2003 interview. The points discussed during the interview are incorporated in the remarks below and constitute Applicants' record of the interview.

Reconsideration based on the following remarks is respectfully requested.

I. Claims 21-27 and 29-49 Define Patentable Subject Matter

The Office Action rejects claims 21, 22, 25, 26 and 49 under 35 U.S.C. §103(a) over U.S. Patent 5,707,745 to Forrest *et al.* (Forrest) in view of U.S. Patent 5,754,262 to Lengyel. This rejection is respectfully traversed.

Forrest and Lengyel, either alone or in combination, do not teach or suggest a light source, including a plurality of organic electroluminescent elements arrayed in a common plane parallel to a support surface of a substrate, the plurality of organic electroluminescent elements emitting light simultaneously, P being a distance in the common plane between adjacent organic electroluminescent elements and D being a distance between each organic electroluminescent element and a display surface of a display element, and a relationship between D and P being such that D is 10 times P or more, as recited in claim 21.

Instead, Forrest discloses vertically stacked layers of double heterostructure LEDs 20, 21, 22 on a glass substrate 37. In particular, Forrest teaches such devices, *e.g.*, LED 20 as consisting of an HTL layer 20H disposed on an ITO layer 35, with an EL layer 20E sandwiched between a top ETL layer 20T and the HTL layer 20H. These LEDs are superposed one above the other. See col. 4, lines 4-25, col. 5, lines 4-18 and Figs. 2A-2C and

14A of Forrest. Thus, Forrest teaches away from Applicants' claimed features regarding elements in a common plane of a substrate support surface.

Additionally, Lengyel discloses a liquid crystal display (LCD) 100 having a contrast enhancement filter to operate under bright ambient conditions. In particular, Lengyel teaches a backlit assembly 102 separated from a display element 103 by 1 to 5 mm, and the display element 103 having linear polarizers 112, 120. Lengyel further teaches a contrast enhancement assembly 105 with a filter 130 that absorbs a portion of light outside the visible spectrum. See col. 4, lines 27-34, col. 5, lines 45-49, col. 6, lines 14-18 and Fig. 1 of Lengyel.

However, while Lengyel provides for a separation distance range between the backlit assembly 102 and display element 103 that might be analogous to P, Lengyel fails to teach or suggest a value of separation between adjacent display elements 103, that might be analogous to P. Thus, Lengyel neither teaches nor suggests a relationship between D and P being such that D is 10 times P or more, as recited in Applicants' claims.

Further, there is no motivation to combine features related to stacked LEDs of Forrest with linear polarizers of Lengyel, nor has the Office Action established sufficient motivation or a *prima facie* case of obviousness. Even assuming that motivation to combine the applied references is established, the combination fails to teach or suggest Applicants' claimed features. These arguments apply by extension to claims 22, 25, 26 and 49 by their dependence from claim 21.

The Office Action further rejects claim 23 under 35 U.S.C. §103(a) over Forrest in view of Lengyel and further in view of U.S. Patent 5,847,506 to Nakayama *et al.* (Nakayama). This rejection is respectfully traversed.

Lengyel fails to teach or suggest the features of claim 21 from which claim 23 depends. Also, Nakayama does not compensate for the deficiencies of Lengyel outlined above for claim 21. Nor does Nakayama teach, disclose or suggest the optical micro-

resonators recited in claim 23. Instead, Nakayama discloses an organic light emitting device using selective light emission resonance. In particular, Nakayama teaches a reflective film 2 selected so that a light emitting layer 5 can generate a frequency-specific electromagnetic emission producing coherent light. See col. 4, lines 21-24, 51-58, col. 5, lines 22-24 and Figs. 3 and 5 of Nakayama. Consequently, Nakayama neither teaches nor suggests pulsed resonance, as provided in Applicants' claims. Also, absent a reason for cyclic application of electric current, such as thermal management, Nakayama provides no motivation for such a modification.

The Office Action further rejects claims 24, 27 and 29 under 35 U.S.C. §103(a) over Forrest in view of Lengyel and further in view of U.S. Patent 6,091,382 to Shioya *et al.* (Shioya). This rejection is respectfully traversed.

Lengyel fails to teach or suggest the features of claim 21 from which claims 24, 27 and 29 depend. Also, Shioya does not compensate for the deficiencies of Lengyel outlined above for claim 21. Nor does Shioya teach, disclose or suggest the additional features recited in claims 24, 27 and 29.

Instead, Shioya discloses a display device having low pixel crosstalk. In particular, Shioya teaches an organic electroluminescent element 11 in which striped cathode electrodes 13 are formed on a transparent substrate 12, and a photoconductive layer 14 covers the substrate 12 and electrodes 13. Shioya further teaches an electron transport layer 15, a luminescent layer 16 and an anode electrode 17 are sequentially stacked on the layer 14. See col. 5, line 59 - col. 6, line 12 and Fig. 1 of Shioya. Also, Shioya teaches that the luminescent layer 16 is composed of a mixture of PVCz and BND. See col. 6, lines 30-40 of Shioya.

While Shioya provides a timing chart for applying drive voltages between adjacent cathodic nodes, these pulses are provided in staggered consecutive order for the respective EL elements according to color. See col. 12, line 57 - col. 13, line 39 and Fig. 17 of Shioya. By contrast, Applicants' claimed features provide for electric current applied in a simultaneous

pulse mode for the electrodes, and for intensity control by amplitude variation of the current. Shioya fails to teach or suggest such features.

The Office Action further rejects claims 30, 31, 33-35, 38, 40, 41 and 44 under 35 U.S.C. §103(a) over U.S. Patent 5,185,712 to Sato *et al.* (Sato) in view of Shioya. This rejection is respectfully traversed.

Sato and Shioya do not teach or suggest a display device, that includes a light source, including an organic electroluminescent element, a display element illuminated by the light source, and an optical system that enlarges and displays an image displayed in the display element, the organic electroluminescent element having a luminescent region having substantially the same size as that of a display area of the display element, and a pulse current being applied to the organic electroluminescent element to cause light emission, as recited in claim 30, and similarly recited in claim 40.

Similarly, Sato and Shioya fail to teach or suggest a display device that has a light source, including first, second and third organic electroluminescent elements that emits light in red, green and blue color ranges, respectively; first, second and third display elements illuminated by their corresponding organic electroluminescent elements, a combining optical system that combines images displayed in the first, second, and third display elements, and an optical system that enlarges and displays the image combined by the combining optical system, the first, second, and third organic electroluminescent elements having luminescent regions with substantially the same sizes as those of display areas of the first second, and third display elements, respectively, and a pulse current being applied to each of the first, second, and third organic electroluminescent elements to cause light emission, as recited in claim 40.

Instead, Sato discloses a viewfinder 10 having a liquid crystal display panel 12 with adjacently mounted display sections 13R, 13G, 13B and reflecting mirrors 17, 18, 19 to

reflect light from the display sections to an eyepiece 16 through a mirror barrel 15. See col. 3, lines 28-42, col. 4, lines 26-36 and Fig. 2 of Sato.

Further, Shioya discloses a display device, as described above, that fails to teach or suggest Applicants' claimed features, and fails to compensate for the deficiencies of Sato, also described above. Neither Sato nor Shioya teaches or suggests applying a pulse current to the organic electroluminescent elements. Nor do either of the applied references provide any motivation to consider such a feature, whether alone or in combination. Further, there is no motivation to combine features related to the viewfinder of Sato with stacked organic EL element of Shioya, nor has the Office Action established sufficient motivation or a *prima facie* case of obviousness. Even assuming that motivation to combine the applied references is established, the combination fails to teach or suggest Applicants' claimed features. These reasons extend by analogy to claims 31, 33, 35, 38, 41 and 44 by their dependency from claims 30, 34 and 40.

The Office Action further rejects claims 32, 36, 37, 39, 42, 43 and 45-48 under 35 U.S.C. §103(a) over Sato in view of Shioya and further in view of Forrest. This rejection is respectfully traversed.

Sato, Shioya and Forrest do not teach or suggest a display device with a first light source comprising a plurality of first organic electroluminescent elements arrayed on a same substrate that emit light in a red color range, the plurality of first organic electroluminescent elements emitting light simultaneously, a second light source having a plurality of second organic electroluminescent elements arrayed on a same substrate that emit light in a green color range, the plurality of second organic electroluminescent elements emitting light simultaneously, a third light source comprising a plurality of third organic electroluminescent elements arrayed on a same substrate that emit light in a blue color range, the plurality of third organic electroluminescent elements emitting light simultaneously, at least one display element illuminated by the light sources comprising the organic electroluminescent elements,

and an optical system that enlarges and displays an image formed by the display element, a pulse current being applied to each of the organic electroluminescent elements so that the organic electroluminescent elements in the first light source, the organic electroluminescent elements in the second light source, and the third organic electroluminescent elements in the third light source, emit light, as recited in claim 47.

Forrest does not compensate for the deficiencies of Sato and Shioya outlined above for claims 30, 31, 33-35, 38, 40, 41 and 44, above. Instead, Forrest discloses vertically stacked layers of double heterostructure LEDs, as described above.

Further, there is no motivation to combine features related to the stacked LEDs of Forrest with linear polarizers of Sato and the PVCz/BND luminescent layer of Shioya, nor has the Office Action established sufficient motivation or a *prima facie* case of obviousness. Even assuming that motivation to combine the applied references is established, the combination fails to teach or suggest Applicants' claimed features.

A *prima facie* case of obviousness for a §103 rejection requires satisfaction of three basic criteria: there must be some suggestion or motivation either in the references or knowledge generally available to modify the references or combine reference teachings, a reasonable expectation of success, and the references must teach or suggest all the claim limitations. See MPEP §706.02(j). The applied references do not provide a basis for such motivation or teaching and thus the Office Action has not satisfied this burden for a proper obviousness rejection.

For at least these reasons, Applicants respectfully assert that the independent claims are now patentable over the applied references. The dependent claims are likewise patentable over the applied references for at least the reasons discussed as well as for the additional features they recite. Consequently, all the claims are in condition for allowance. Thus, Applicants respectfully request that the rejections under 35 U.S.C. §103 be withdrawn.

II. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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